

*Neptune and Triton* continues the superb Space Science Series published by the University of Arizona Press. Several of these books, including this book and one I co-edited on Uranus, are primarily a summation of detailed results of NASA's Voyager Mission. This book has one variation not contained in most of the other books of this series: the first two chapters are written in layman language. The first gives an overview of the Neptune encounter of Voyager and some of the primary results. The second summarizes Neptune's discovery. The book is dedicated to the memory of Jim Pollack, a good friend and NASA colleague who died in 1994. Pollack was co-author of the book's third chapter, "Formation of the Neptune System," and of a later chapter on Triton. The fourth chapter outlines our post-Voyager understanding of Neptune's interior. Six chapters deal with Neptune's magnetic field and plasma *environment*, four with Neptune's atmosphere, one each with Neptune's small satellites and Neptune's rings, and six with Neptune's only major satellite (Triton). As with all NASA missions, Voyager answered many questions about Neptune and Triton, but raised an even larger number of unanswered questions. The final chapter of the book lists some of those questions, outlines methods for answering them, and recommends a series of spacecraft missions which could be used to answer the questions. Following the technical chapters are an extensive glossary

and a relatively comprehensive index. Fifteen color plates display some of the better images and highlight scientific results.

While the book is ~~the~~ premiere source of ~~up-to-date~~ information on Neptune and Triton, some of the chapters suffer from having been completed long before the book was published. Of particular note is the final chapter, which refers to Mariner Mark II concept (now abandoned), to a large Neptunededicated spacecraft (rendered highly unlikely by NASA's present emphasis on cheaper/ faster/ better), and quotes no sources more recent than 1992. Cruikshank mentions in the book's preface that the chapters represent the state of knowledge at completion dates ranging from early 1992 to mid-1994.

There are a few small errors here and there, but they are not in the technical data, but rather in the descriptive information. For example, the Preface states that the Neptune encounter "followed four spacecraft flybys each of Jupiter and Saturn..." Pioneers 10 and 11 and Voyagers 1 and 2 flew by Jupiter, but unlike the remaining three, Pioneer 10 did not continue to Saturn. In the first chapter, the text states that following the scan platform seizure during the Saturn flyby of Voyager 2, "for three days no data were returned..." In fact, all the data were returned. The fields and particles data were completely usable, but since the scan platform was disabled, the remote sensing instruments were not pointed at their planned targets.

This book is a must for serious students of the Neptune system. I congratulate Cruikshank and the chapter authors, along with Tom Gehrels, Mildred Matthews, and the University of Arizona Press on its high quality.